



Obsolescence Notice

This product is obsolete.

This information is available for your convenience only.

For more information on Zarlink's obsolete products and replacement product lists, please visit http://products.zarlink.com/obsolete_products/

SP4633

1GHz ÷ 64 NON SELF OSCILLATING PRESCALER

The SP4633 ÷ 64 prescaler is one of GPS' range of high speed dividers for consumer frequency synthesis and measurement systems. It has a low supply current, giving reduced dissipation and operating temperatures in an 8-pin plastic DIL package. Spurious radiation has been reduced from all stages.

The SP4633 incorporates a two-stage preamplifier which gives good low frequency sensitivity and prevents self-oscillation.

FEATURES

- Does Not Self Oscillate
 - Low Supply Current
 - Low Radiation
 - Input Wideband Amplifier
 - High Input Sensitivity
 - High Input Impedance
 - Balanced ECL Outputs
 - Electrostatic Protection †
- † ESD precautions must be observed

ABSOLUTE MAXIMUM RATINGS

Supply voltage, V_{CC}	+7V
Input voltage	2.5V p-p
Storage temperature	-55°C to +150°C
Operating temperature range	0°C to +80°C

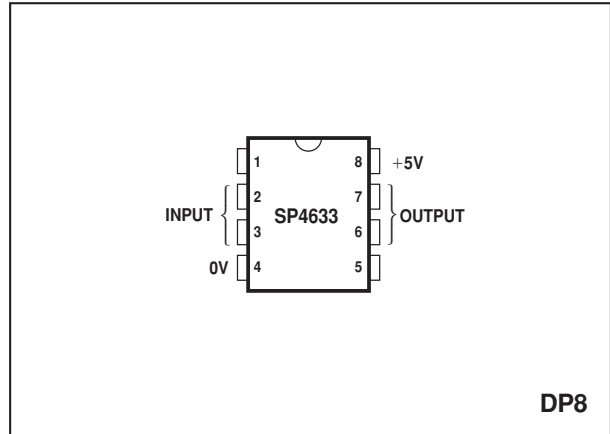


Fig 1. Pin connections - top view

ORDERING INFORMATION

SP4633 NA DP

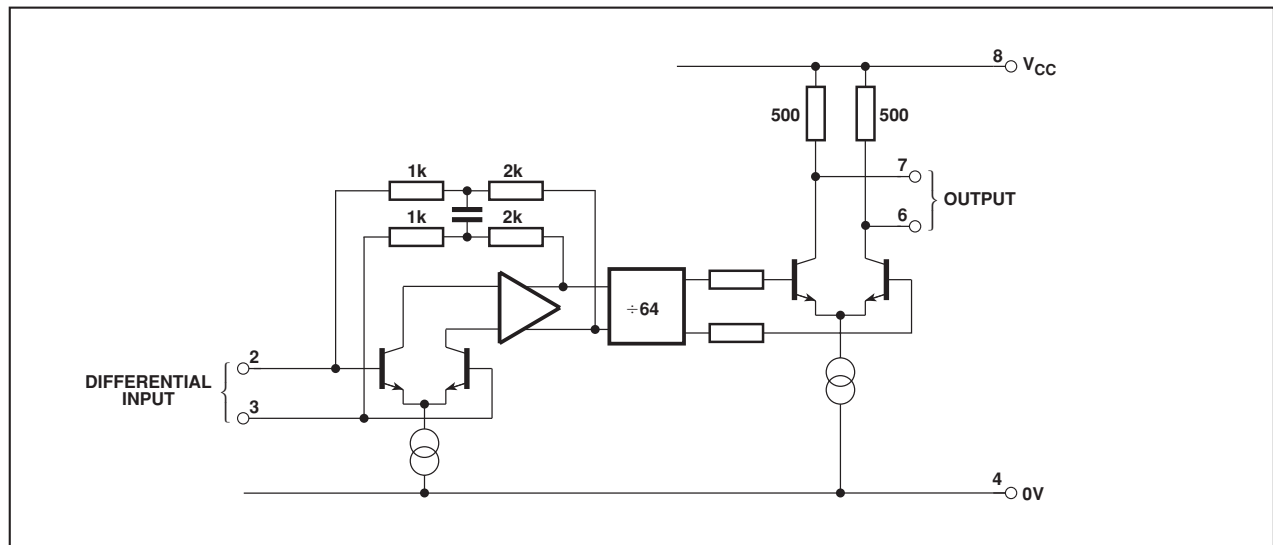


Fig. 2 SP4633 block diagram

SP4633

ELECTRICAL CHARACTERISTICS

These characteristics are guaranteed over the following conditions (unless otherwise stated):

$T_{AMB} = 0^{\circ}\text{C}$ to $+70^{\circ}\text{C}$, $V_{CC} = 4.5\text{V}$ to 5.5V (Test circuit see Fig. 3)

Characteristic	Pin	Value			Units	Conditions
		Min.	Typ.	Max.		
Supply current, I_{CC}	8		32	45	mA	$V_{CC} = +5\text{V}$ RMS sinewave (50Ω system)
Input sensitivity	2,3					
50MHz to 400MHz			1.5	5	mV	
600MHz			2	7.5	mV	
800MHz			3	10	mV	
1000MHz			5	15	mV	
Input overload	2,3	300			mV	50MHz to 1GHz operating frequency See Fig. 6
Input impedance	2,3		50		Ω	
			2		pF	
Output voltage, no load	6	0.8			V p-p	} $f_{IN} = 1\text{GHz}$, $V_{CC} = +5\text{V}$
	7	0.8			V p-p	
Output voltage with load as Fig. 3	6	0.55			V	
	7	0.55			V	
Output impedance	6		0.5		kΩ	
	7		0.5		kΩ	
Output imbalance	6,7		0.1		V	

NOTE

The difference between the maximum input sensitivity and minimum overload voltage is the guaranteed dynamic range. Input signal levels should be maintained within these limits at all frequencies.

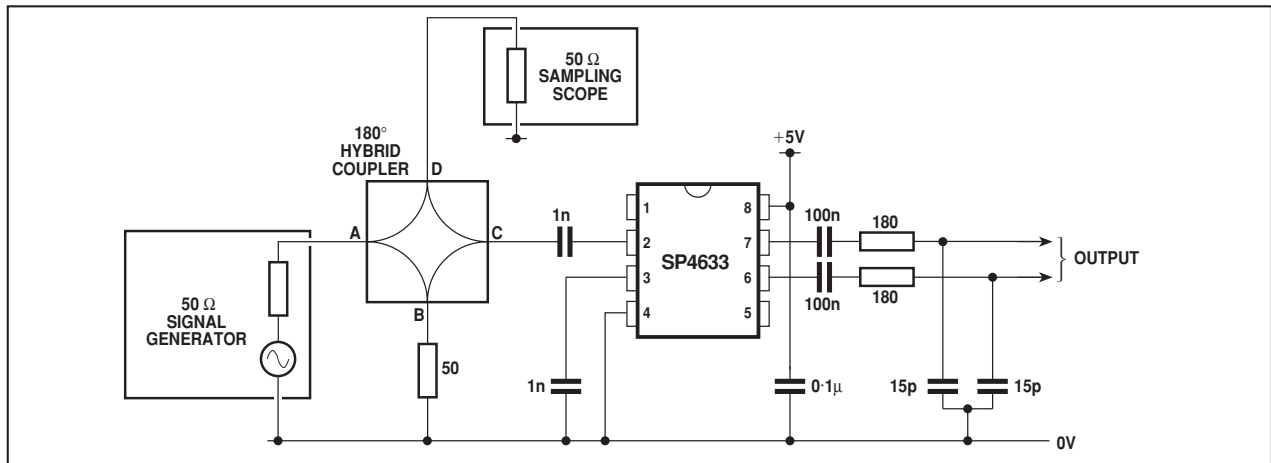


Fig. 3 Test circuit

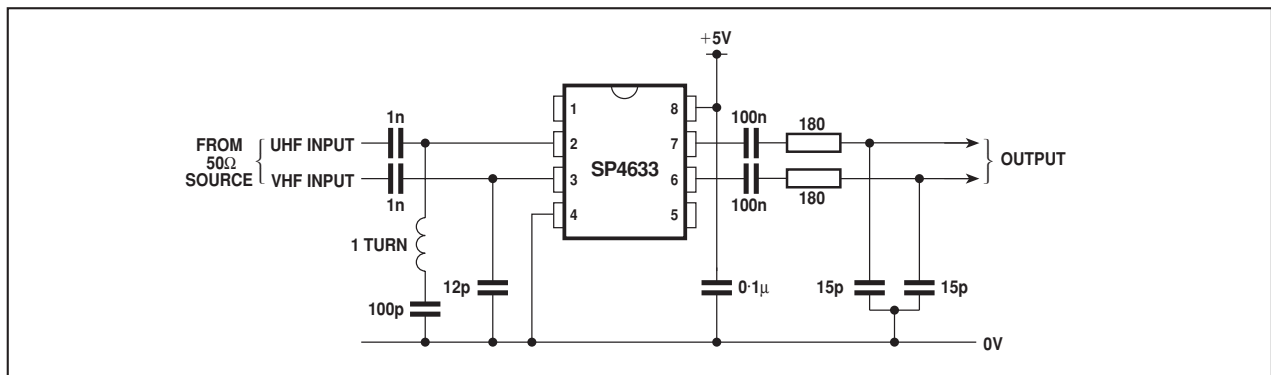


Fig. 4 Application circuit

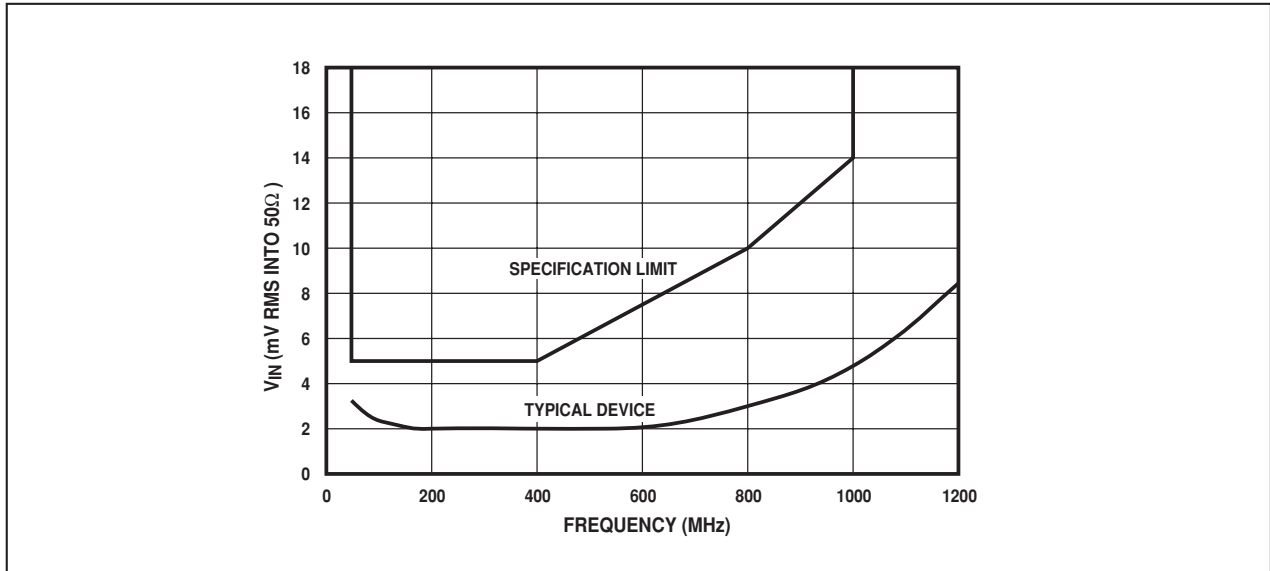


Fig. 5 Typical input sensitivity

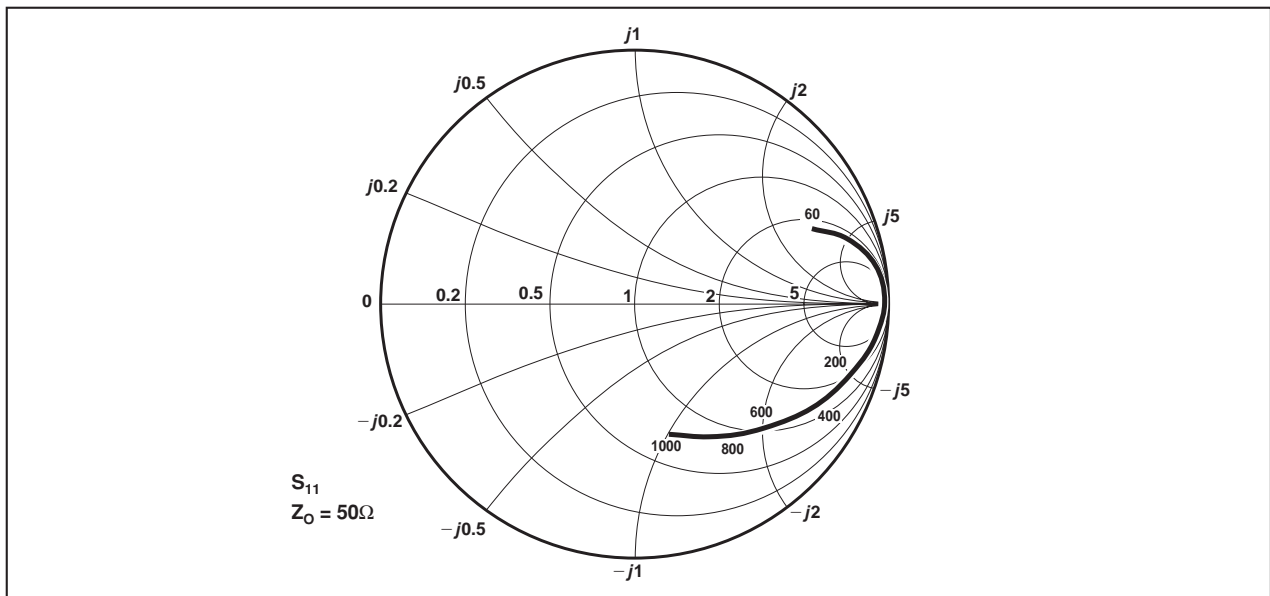


Fig. 6 Typical input impedance (frequencies in MHz)



HEADQUARTERS OPERATIONS

GEC PLESSEY SEMICONDUCTORS

Cheney Manor, Swindon,
Wiltshire SN2 2QW, United Kingdom.
Tel: (0793) 518000
Fax: (0793) 518411

GEC PLESSEY SEMICONDUCTORS

P.O. Box 660017
1500 Green Hills Road,
Scotts Valley, California 95067-0017,
United States of America.
Tel: (408) 438 2900
Fax: (408) 438 5576

CUSTOMER SERVICE CENTRES

- **FRANCE & BENELUX** Les Ulis Cedex Tel: (1) 64 46 23 45 Tx: 602858F
Fax : (1) 64 46 06 07
- **GERMANY** Munich Tel: (089) 3609 06-0 Tx: 523980 Fax : (089) 3609 06-55
- **ITALY** Milan Tel: (02) 66040867 Fax: (02) 66040993
- **JAPAN** Tokyo Tel: (03) 3296-0281 Fax: (03) 3296-0228
- **NORTH AMERICA Integrated Circuits and Microwave Products** Scotts Valley, USA
Tel (408) 438 2900 Fax: (408) 438 7023.
Hybrid Products, Farmingdale, USA Tel (516) 293 8686
Fax: (516) 293 0061.
- **SOUTH EAST ASIA** Singapore Tel: (65) 3827708 Fax: (65) 3828872
- **SWEDEN** Stockholm, Tel: 46 8 702 97 70 Fax: 46 8 640 47 36
- **UNITED KINGDOM & SCANDINAVIA**
Swindon Tel: (0793) 518510 Tx: 444410 Fax : (0793) 518582

These are supported by Agents and Distributors in major countries world-wide.

© GEC Plessey Semiconductors 1993 Publication No. DS3058 Issue No. 2.2 May 1996

This publication is issued to provide information only which (unless agreed by the Company in writing) may not be used, applied or reproduced for any purpose nor form part of any order or contract nor to be regarded as a representation relating to the products or services concerned. No warranty or guarantee express or implied is made regarding the capability, performance or suitability of any product or service. The Company reserves the right to alter without prior knowledge the specification, design or price of any product or service. Information concerning possible methods of use is provided as a guide only and does not constitute any guarantee that such methods of use will be satisfactory in a specific piece of equipment. It is the user's responsibility to fully determine the performance and suitability of any equipment using such information and to ensure that any publication or data used is up to date and has not been superseded. These products are not suitable for use in any medical products whose failure to perform may result in significant injury or death to the user. All products and materials are sold and services provided subject to the Company's conditions of sale, which are available on request.